

REMARKS/ARGUMENTS

Claim 26 is pending in this application. That claim stands rejected under 35 USC 102 as being anticipated by Gente (DE 198 03 302 A1). The Applicant respectfully disagrees and believes that current Claim 26 is allowable over Gente. The Applicant acknowledges with thanks that the Examiner has included a translated copy of the German reference.

To summarize the Examiner's rejection, Examiner has stated that "the diaphragm anticipates Applicant's mask because said diaphragm allows first for curing the filling/composite material from the interior to the exterior (tooth/composite interface) without curing the top of the filling material." Further the Examiner states that the Gente reference discloses "an adjustable light exit window and a controllable light intensity and light divergence." Finally, the Examiner states that Gente does not expressly disclose overcoming polymerization stresses in the cured composites/inserts produced. The Applicant agrees with this last statement and contends that Gente would not do so.

As the Examiner has acknowledged, the Gente reference discloses a device that is inserted into the filling material and which may direct light toward a portion of that material. Further, as the Examiner has also indicated, the Gente reference teaches a controllable light intensity with light diversions. However, Gente does not disclose, teach or suggest dividing stresses occurring over the entire composite-to-tooth interface into a series of incremental stresses over composite-to-composite sub-interfaces, thereby substantially preventing the overall polymerization stress from being transmitted to the composite-to-tooth interface or being passed through the interface into the tooth structure. Inserting a light exit window into a filling material is not the same as using a mask to affect segmental curing to reduce polymerization stress. In addition, Gente specifically discloses as the Examiner has indicated controlling light intensity. This is the same as other prior art which varies polymerization based upon light intensity. None of the prior art, including the reference to Gente, discloses the use of a mask to produce segmental curing.

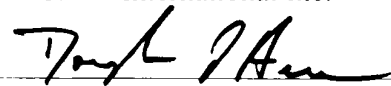
The Examiner states that Gente is primarily concerned with reducing shrinkage in cured dental fillings by controlling the irradiation exposure of said filling/composite material versus prior-art methods of a step by step build-up process. The Examiner further states that Gente discloses that shrinkage leads to gaps forming in the transition zone of the composite and the tooth. The Applicant does not contend that he was the first to recognize that shrinkage leads to gaps. However, the Applicant does contend that he has invented a new and novel method of reducing shrinkage by segmental curing. The Applicant's invention uses a mask that is substantially transmissive of the spectrum of light required for curing the material, and which also has a portion which is non-transmissive of at least a portion of the spectrum of light required for curing the material. Gente discloses merely a light source placed into filling material. The Applicant has not suggested inserting any instrument into a filling material. While Gente recognizes reducing shrinkage is important, it accomplishes such reduction in a manner completely different than that within the scope of present Claim 26.

Therefore, the Examiner is respectfully requested to issue a formal Notice of Allowance for currently pending Claim 26. Should the Examiner care to discuss any of the foregoing in greater detail, the undersigned attorney would welcome a telephone call.

Respectfully submitted,

DENTSPLY International Inc.

By



Douglas J. Hura

Patent Attorney Reg. No. 33249

Tel.: (717) 849-4466

Attachments